

Florothane CR 250 ESD

Product Description:

Florothane CR 250 ESD provides a textured, semi-gloss, pigmented surface which is approved for use in military hangars. Specially formulated to furnish reliable ESD properties, this urethane also protects concrete from exposure to harmful maintenance fluids & electronics manufacturing solvents. Florothane CR 250 ESD is used as a chemical resistant, static dissipative coating over FloroBuild mortar and Floropoxy SL 4805 optional midcoat.

Typical Uses:

Floors requiring ESD control and excellent chemical resistance, such as:

- Aircraft Hangars
- Electronics Manufacturers
- Calibration Shops
- Hazardous Industries (dust or explosive)
- Data Processing

Product Advantages:

- Furnishes electrostatic dissipation in accordance with ESD Association guidelines
- Superior resistance to many harmful chemicals
- Maintains original colour overtime, UV stable

Packaging:

- 11.4 litres Kit (when blended)

Storage: Store at 16°-30°C in tightly sealed containers and out of direct sunlight.

Coverage:

- 108 m² per kit (2 coats required)

Blended Components – Application Data	
Ratio	3-component kit/ inseparable
Pot life	Usable 30 minutes Fluid for 2 hours***
Drying Time at 21° C @ 50% RH	
Set to Touch	3 1/2 hours
Cure to Recoat	8 hours
Maximum Recoat	24 hours
Foot Traffic	24 hours
Full Cure	7 days
Floor & Air Temp. Limitations	13° C - 32° C
Recommended Spread Rate	9.5m ² /litre
Recommended Clean up Solvent	MEK

Blended Liquid Physical Properties CR 250 ESD		
Property	Test Method	Results
% Solids by Weight /Volume	ASTM D-2697	67/53
Viscosity	ASTM D-1200	220 cps
SETA Flash, min.	ASTM D-3278	43° F
VOC gpl	EPA Method 24	250 gpl

***Note, while the product will remain fluid for 2 hours, it is important to apply the entire mix within 30 minutes of mixing to ensure good ESD properties.

Surface Preparation:

New concrete must have a 28 day cure, and preferably a broom swept finish, prior to coating. In the case of older concrete flooring, remove all surface oils, paint, dust and debris. Prior to coating, make sure the surface is clean, passes the MVT test and the water drop test and that all surface defects have been repaired. Refer to the Florock "Preparation of Concrete" datasheet for more information on preparation and MVT before proceeding.

Florothane CR 250 ESD System:

In the basic system, 2 coats of Florothane CR 250 ESD are applied over Floropoxy SL 4700 Primer, White Night Grey. If a midcoat is needed, apply Floropoxy SL 4805 WN Grey over primer in sufficient thickness to restore profile.

Important: Floropoxy should not be applied when floor temperature is above 32° C, below 13° C, or when within 3° C of the dew point.

Installation over smooth, bare concrete:

1. Primer:

Once surface preparation is complete, apply Floropoxy System 4700 WN Grey Primer to the concrete floor. In a clean, dry container, blend 3 parts by volume of Resin Part A with 1 part Activator Part B. Mix thoroughly for 3-5 minutes, using a low speed mechanical mixer. Transfer the mixture from the batch container to a transport container. Remix and pour entire mix from the transport container onto floor immediately. Retaining mixture in the bucket will shorten the pot life. Using a flat squeegee, apply at desired thickness. Backroll with a 10mm nap roller.

Important: Do not sand, screen, or abrade the primer coat.

Note: The cure time will vary with conditions. Allow a minimum of 4 hours and a maximum of 24 hours before moving on to next step.

2. Optional Intermediate Coat: When the primer has cured, and before 24 hours elapses, apply the Floropoxy SL 4805 WNGrey Midcoat. In a clean, dry container, blend 3 parts by volume of Resin Part A with 1 part by volume of Activator Part B.

Chemical Resistance	
Reagent	Spot Test Results
Skydrol	1
Brake Fluid	1
MEK	1
JP 4 Jet Fuel	1
Ammonia	1
Acetone	1
Sodium Hydroxide	1
Phosphoric Acid 10%	1
Nitric Acid 10%	1
Sodium Chloride 20%	1
Citric Acid 10%	1
Sulfuric Acid 10%	1
Sulfuric Acid 25%	1
Nitric Acid 10%	1
Hydrochloric Acid 10%	1
Acetic Acid 10%	2
Sugar Solution 10%	1
Lactic Acid 10%	1
1-1-1 Trichloroethane	1
Xylene	1
Toluene	1
Mineral Spirits	1
MIBK	5
Tincture of Iodine	2, S
AFFF	1
Water	1
Gasoline	1
Freon-11	1
Methyl Alcohol	1

Rating Scale:

- 1 - Excellent. No change in pencil hardness
- 2 - Good. 1-2 units change in pencil hardness
- 3 - Fair. 3 units change in pencil hardness
- 4 - Poor. 4 or more units change in pencil hardness
- 5 - Stains

Based on a 1 day spot test. Coating cured 2 weeks prior to testing. Spot Test IAW ASTM D1308, Pencil Hardness Test IAW ASTM D3363

Florothane CR 250 ESD

2. Optional Intermediate Coat (cont'd): Mix thoroughly for 3 to 5 minutes using a low speed mechanical mixer. Transfer the mixture from the batch container to a transport container. Remix and pour entire contents from transport container onto the floor immediately. Using flat or notched squeegee, spread at 3.8m²/ltr@250 microns or 1.9m²/ltr @ 500 microns. Backroll with a 10mm nap roller.

Note: The cure time will vary with conditions. Allow a minimum of 8 hours and a maximum of 48 hours before moving on to next step.

Important: Consult your Representative concerning grounding tabs before proceeding.

3. Two Topcoats Florothane CR 250 ESD: Check floor for pinholes before applying topcoats. Apply Copper grounding tape before applying topcoats

1. Remove the cover from component "C", DO NOT PREMIX THIS MATERIAL
2. Open the can of component "B". Mix until uniform. Check to ensure no settling remains on the bottom. Pour entire contents into the container of component "C"
3. Open the can of component "A". Pour entire contents into the container of component "C"
4. Mix well for 5 minutes using a low speed mechanical mixer.
5. Allow mixture to induct for 10 minutes. Then remix, and pour into roller trays.
6. Using a paint roller tray, apply first coat of Florothane CR 250 ESD at the rate of approximately 9.5m²/ltr (100 microns WFT) with a solvent resistant, medium nap roller. Any Material that is held in the bucket for longer then 10 minutes should receive a quick remix. Any material that is older then 30 minutes should not be put on the floor.
7. IMPORTANT: While wearing spikes backroll the coating after it has been down for 10 minutes. (This is necessary to ensure consistent readings).

8. Allow 8-24 hours to cure, and then repeat with a second coat. (Two coats are mandatory) If more than 24 hours elapses between coats, consult your Florock Representative for recommendations. DO NOT SPRAY APPLY THIS MATERIAL.

Allow coating to cure for a minimum of 24 hours before opening floor to foot traffic and 48 hours before allowing equipment to be moved back in. Allow a full seven days cure for complete chemical resistance.

Note: For optional slip resistant additive, wear spiked shoes and broadcast aluminum oxide into the wet first coat of urethane to the desired level of slip resistance. Apply at a rate of 2-3 kgs per 100m² Use #36, #60 or #80 white aluminum oxide.

1. Fire Lanes and Traffic Lines: After the final coat has cured for 24 hours, the fire lanes, traffic lines, etc., may be installed as specified. Suitable masking tape will be placed on each side of the proposed lines to give a straight edge. Line marking may be achieved by using clear Florothane CR and Florock 100% Colourant or by using Florock Floromark line marking kits. Approximately one hour after application, remove the tape. 10 - 12 hours after application, the area may be opened to light traffic.

Installation over existing coatings (Consult your Florock Representative):

1. Examine existing coating to ensure that it is well bonded to the concrete. Any loose coating must be completely removed. Edges should be sanded to a feathered edge.

2. Clean the entire floor thoroughly with a detergent cleaner. The surface must be free of all dirt, oils, or other contaminants

3. After the floor has completely dried, sand the existing coating until a powdery residue is evident and all gloss is removed. Sweep or vacuum clean, and wipe with Solvent free wipes to ensure good adhesion of new system.

4. Apply 250 microns of Floropoxy 4700 WKG

5. Proceed with steps 2 and 3 from the "Installation Over Smooth, Bare Concrete" section.

Important: Do not skip the primer application even if the surface is in good condition.

Maintenance:

Sweep away dust and debris with a broom. Clean on a regular basis with a surfactant type, mild detergent. Florock floors never need to be waxed.

Please read Material Safety Data before using product.

DISCLAIMER:

All statements and recommendations above are based on experience we believe to be reliable. The use or application of these products being beyond the control of the Seller or Manufacturer, neither Seller nor Manufacturer make any warranty, expressed or implied, as to results or hazard from its use. The suitability, risk and liability of a product for an intended use shall be solely up to the User.

Florothane CR 250 ESD Topcoat Cured Physical Properties		
Property	Test Method	Results
Point to Point Resistance	EOS/ESD 7.1	1.0 Mega Ohms to 35 Mega Ohms
Point to Ground Resistance	EOS/ESD 7.1	1.0 Mega Ohms to 35 Mega Ohms
Body Voltage Generation	ESD STM 97.2	<15 Volts
Static Decay	MIL-STD-3010 4046	0.01 seconds
Gloss, 60 Degrees	ASTM E-97	58
Sward	ASTM D-2134	56
Elongation	ASTM D-2370	7%
Tensile Strength	ASTM D-2370	34.47 N/mm ²
Adhesion, 5= Perfect	ASTM D-3359	5
Accelerated Weathering	ASTM D-623	Gloss Loss 12%
Compressive Strength	ASTM D-579	60 N/mm ²
Tensile Strength	ASTM D-638	16.55 N/mm ²
Shore Hardness	ASTM D-2240	85
Percent Elongation	ASTM D-638	27.5%
Abrasion Resistance CS-17 Wheel, 1,000 gm load, 1,000 cycles	ASTM D-4060	58 mg
Water Absorption	ASTM C-413	2.0%
Indentation	MIL-D-3134	No Indentation